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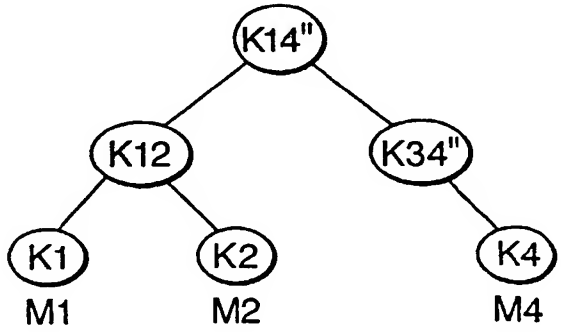
(54) Title: KEY MANAGEMENT PROTOCOL




(57) Abstract: A key distribution server maintains a tree of nodes. Members of a group who are allowed access to information are associated with respective leaf nodes of the tree. The information is encrypted with a key comprising a join key field and a leave field, and these are associated with the root node of the tree. The join key is updated each time a member joins the group and the leave field is updated each time a member leaves. Further respective leave keys are associated with the other nodes of the tree. The leave keys of the tree are related so that a member knowing the leave key of its node can work out the leave key of the root node and hence decrypt the information. The key distribution server transmits offset messages to the members to allow them so to calculate the root node leave key. The system of offset messages reduces the amount of communication required between the key distribution server and the group members.

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